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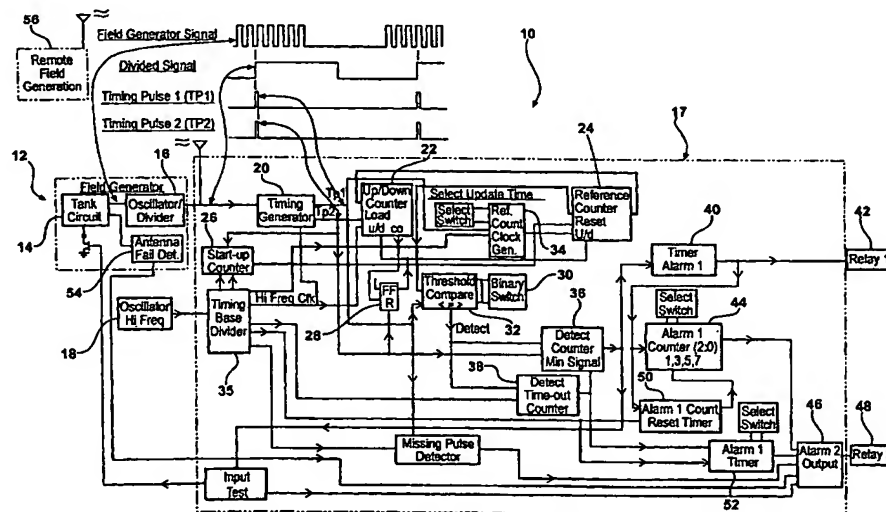
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(54) Title: APPARATUS AND METHOD FOR PROCESSING CAPACITOR SENSOR SIGNALS USING DIGITAL
FREQUENCY SHIFT MEASUREMENT TECHNIQUES WITH FLOATING REFERENCE



(57) Abstract: The present invention provides a capacitive sensing technique that is advantageously useful for security applications wherein digital technology is used to measure frequency shifts caused by a conductive or grounded object moving within a capacitive sensing field. The system includes a floating reference to compensate for drifting or offsets caused by electrical noise or other environmental conditions. The system also includes a CPLD integrated circuit or microprocessor and operative to monitor changes in a sensing field signal and digitally compare a reference signal to the sensing field signal such that when a difference between the two signals exceeds a predetermined threshold, an object detection signal is generated by the monitor circuit which causes the activation of an alarm signal.